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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/542,994	Applicant(s) DEANGELIS ET AL.	
	Examiner Ian J. Lobo	Art Unit 3662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7 and 9-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-15 and 17 is/are allowed.
- 6) ☒ Claim(s) 7, 9-11 and 16 is/are rejected.
- 7) ☒ Claim(s) 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 7, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kazmar ('518).

Fig. 4 of the patent to Kazmar discloses an acoustic projector embodiment that includes a single cylindrical shell segment (202) and three longitudinally spaced drivers (204) mounted within said shell segment.

The difference between claim 7 and Kazmar is the claim specifies "only two" longitudinally spaced drivers.

At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to modify Kazmar from three to two drivers because applicant has not disclosed that having only two drivers provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art would have expected Applicants invention to perform equally well with three drivers because both two and three drivers perform the same function of transmitting an acoustic signal.

Therefore, it would have been an obvious matter of design choice to modify Kazmar to obtain the invention as specified in claim 7.

Per claim 10, the claimed combined length of the drivers being “between 70 and 90 percent” of the longitudinal length of the shell segment, although not expressly disclosed in Kazmar, however, is a matter of design choice that one of ordinary skill in this art would find obvious.

Per claim 11, see slot (208).

3. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kazmar (518) in view of Osborn et al (‘222).

Claim 9 further differs from the Kazmar patent by claiming that the shell segment is formed of an epoxy graphite material. Kazmar discloses on col. 9, lines 16-18 that the shell segment (202) may be comprised of “steel, aluminum, plastic or any suitable solid material”.

The patent to Osborn et al on col. 4, lines 24+, teaches that shell materials may often include any one of aluminum, epoxy/graphite composites, glass fiber/epoxy composites, steel, titanium, etc. To have modified Kazmar shell material by substituting a graphite epoxy composite material for aluminum or steel would have been obvious to one of ordinary skill in the art. Claim 9 is so rejected.

4. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kazmar (‘518) in view of Kompanek (‘044)).

Per claim 16, Kazmar discloses a single shell segment whereas claim 16 claims two shell segments.

Kompanek discloses a sonar projector that includes an embodiment (see Fig. 5) having an even number of longitudinally joined cylindrical shell segments. By including a plurality of such shell segments a sonar array is achieved which produces omnidirectional or directional energy, provides large amounts of acoustical power at high efficiencies and at controlled frequencies (col. 5, lines 49-57).

Therefore, in view of Kompanek, it would be obvious to one of ordinary skill in the art to modify Kazmar by utilizing an two shell segments joined together so as to provide a sonar projector that increases the power at high efficiencies and controlled frequencies. Claim 16 is so rejected.

Allowable Subject Matter

5. Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Claims 13-15 and 17 are allowed.

Response to Arguments

7. Applicant's arguments filed May 27, 2008 have been fully considered but they are not persuasive. Applicant argues against the obvious design choice rejection by citing

Figs. 1 and 2 of the instant application and page 6 of the corresponding PCT patent application as showing the preferred or main embodiment of the invention, specifically Fig. 2 which includes two drivers 10 mounted in a single shell. However, the argument is not convincing to overcome the rejection since there is no evidence that shows that two drivers provide for the advantages cited by applicant. Further, a preferred embodiment is merely that, a preference.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ian J. Lobo whose telephone number is (571) 272-6974. The examiner can normally be reached on Monday - Friday, 6:30 - 3:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas H. Tarcza can be reached on (571) 272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ilan J. Lobo/
Primary Examiner
Art Unit 3662

ijl